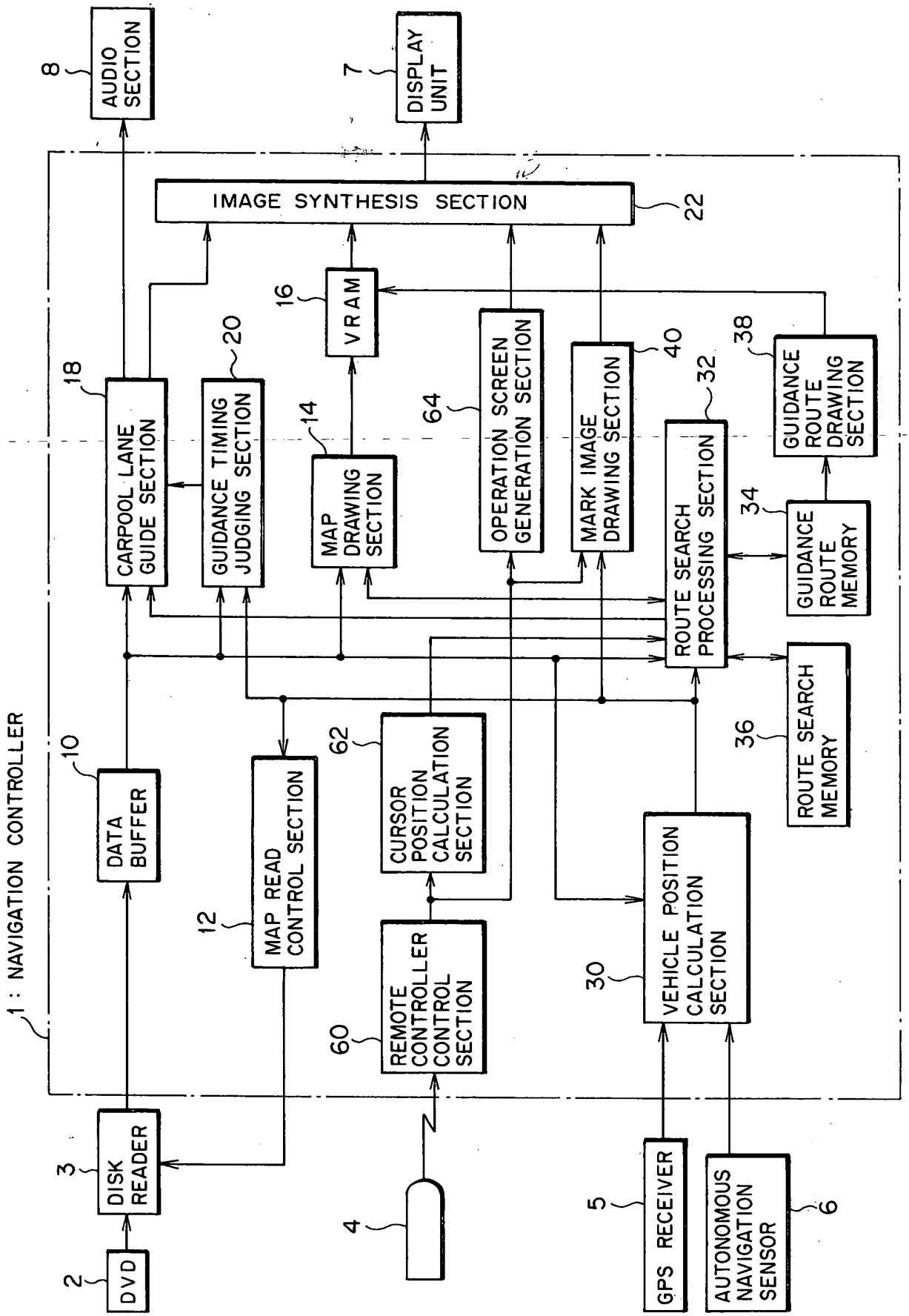

1 : NAVIGATION CONTROLLER
2 DVD
3 DISK READER
4
5 GPS RECEIVER
6 AUTONOMOUS NAVIGATION SENSOR
7 DISPLAY UNIT
8 AUDIO SECTION
10 DATA BUFFER
12 MAP READ CONTROL SECTION
14 MAP DRAWING SECTION
16 VRAM
18 CARPOOL LANE GUIDE SECTION
20 GUIDANCE TIMING JUDGING SECTION
22 IMAGE SYNTHESIS SECTION
30 VEHICLE POSITION CALCULATION SECTION
32 ROUTE SEARCH PROCESSING SECTION
34 GUIDANCE ROUTE MEMORY
36 ROUTE SEARCH MEMORY
38 GUIDANCE ROUTE DRAWING SECTION
40 MARK IMAGE DRAWING SECTION
60 REMOTE CONTROLLER CONTROL SECTION
62 CURSOR POSITION CALCULATION SECTION
64 OPERATION SCREEN GENERATION SECTION

FIG.1

FIG. 2(A)

NODE TABLE

#0 NODE RECORD
#1 NODE RECORD
#2 NODE RECORD
⋮

FIG. 2(B)

CONNECTION NODE TABLE

NORMALIZED LONGITUDE OF NODE
NORMALIZED LATITUDE OF NODE
ATTRIBUTE FLAG OF NODE
NUMBER OF NODES CONNECTED
NUMBER OF TRAFFIC CONTROL
⋮
#0 CONNECTED NODE RECORD (LINK NUMBER)
#1 CONNECTED NODE RECORD (LINK NUMBER)
⋮
#0 TRAFFIC CONTROL RECORD
#1 TRAFFIC CONTROL RECORD
⋮
ADJACENT NODE RECORD
STORAGE POSITION OF INTERSECTION RECORD
SIZE OF THE CONCERNED INTERSECTION RECORD

FIG. 2(C)

LINK TABLE

#0 LINK RECORD
#1 LINK RECORD
#2 LINK RECORD
⋮

LINK RECORD

LINK ID
NODE NO.1
NODE NO.2
DISTANCE
COST
ROAD ATTRIBUTE FLAG
ROAD TYPE FLAG
ROUTE NO.
⋮

FIG. 3(A)

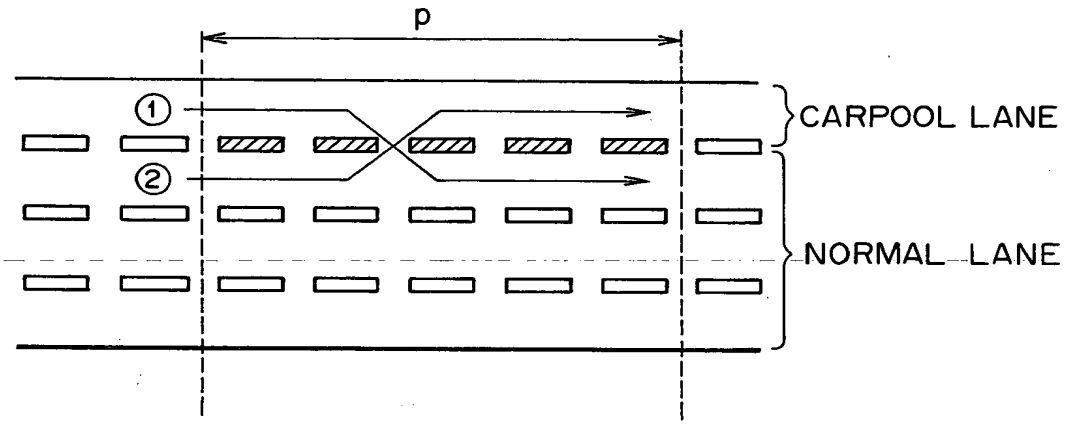


FIG. 3(B)

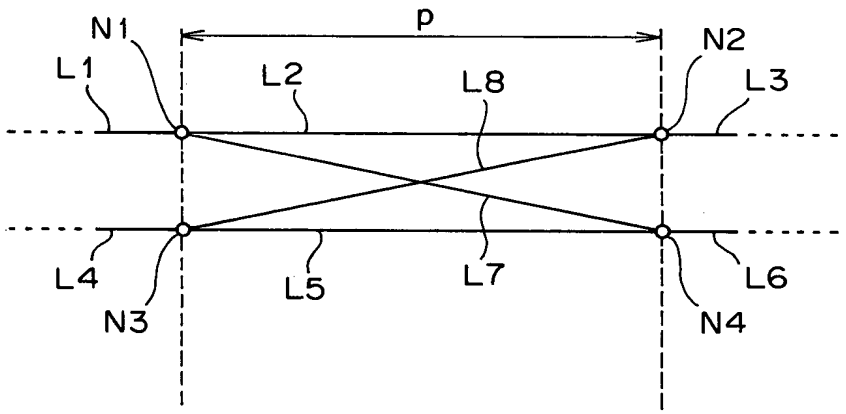


FIG.4(A)

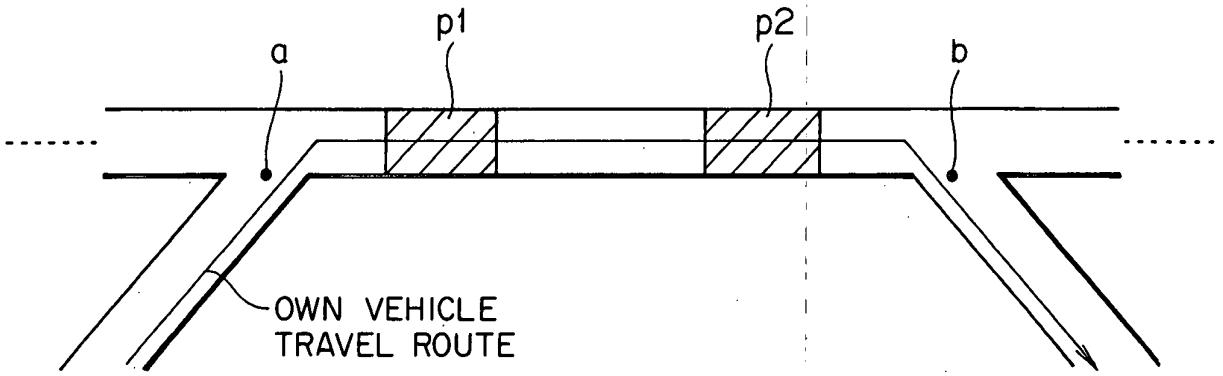

a
p1
p2
b
OWN VEHICLE
TRAVEL ROUTE

FIG.4(B)

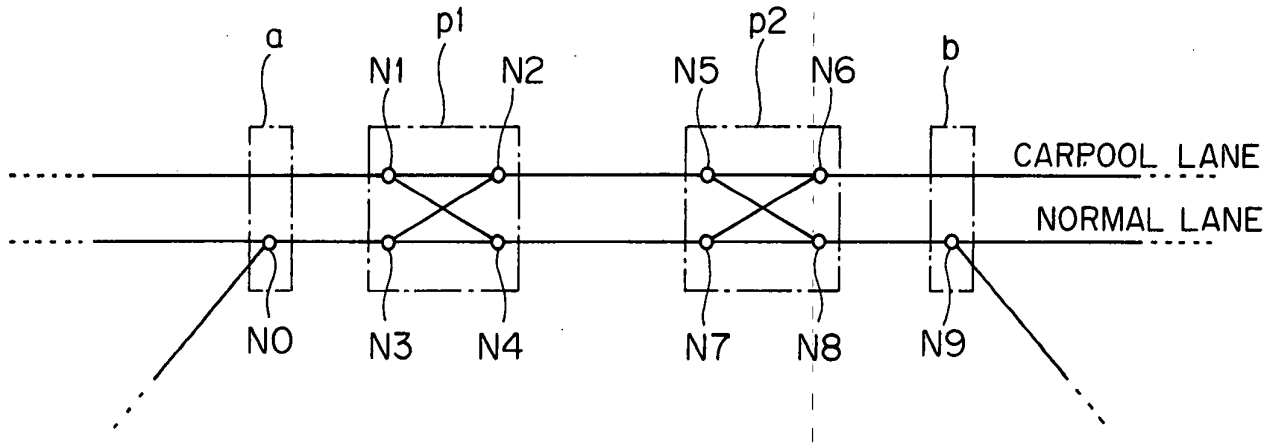

a
p1
p2
b
N1
N2
N5
N6
CARPOOL LANE
NORMAL LANE
N0
N3
N4
N7
N8
N9

FIG.5

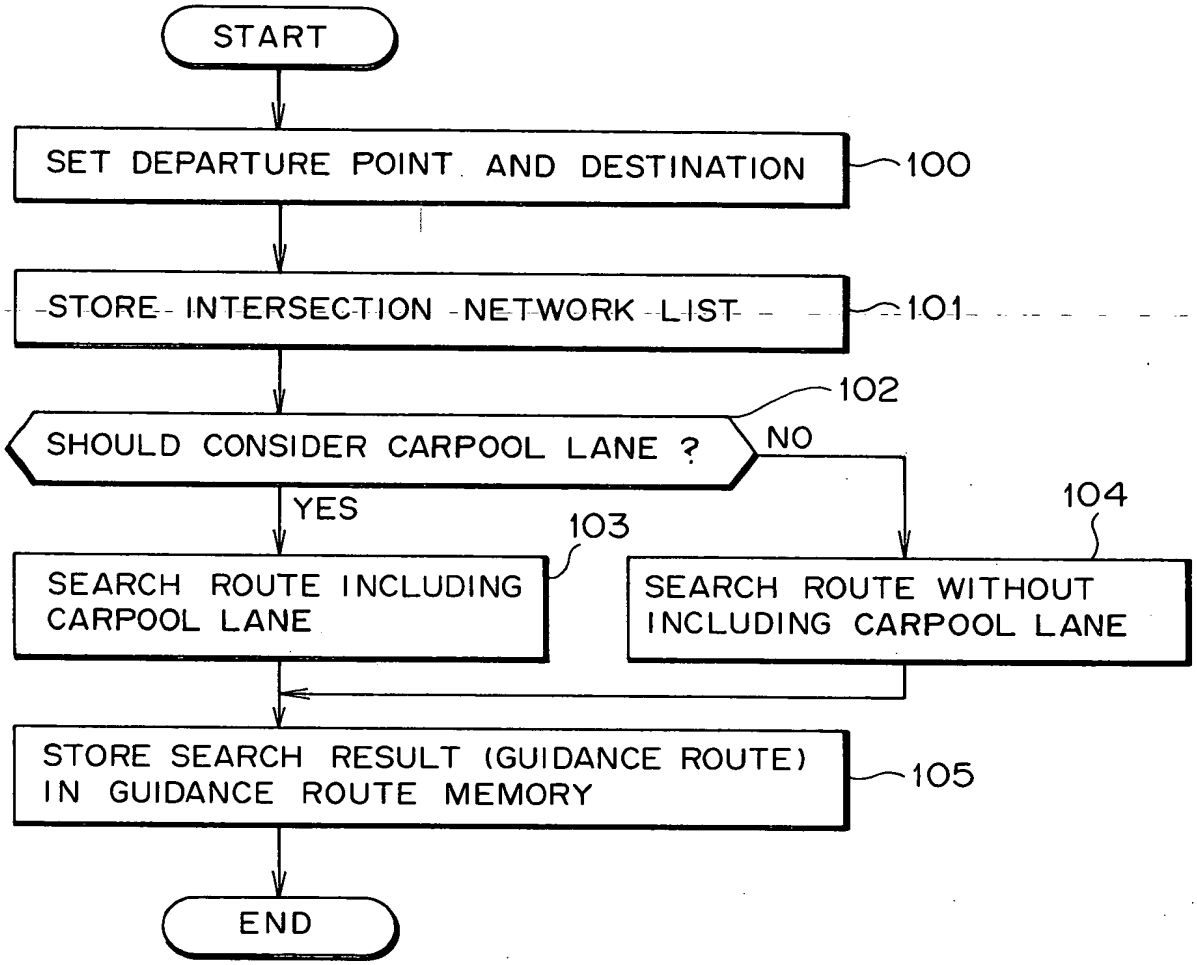

START
SET DEPARTURE POINT AND DESTINATION
100
STORE INTERSECTION NETWORK LIST
101
102
SHOULD CONSIDER CARPOOL LANE ?
NO
YES
103
104
SEARCH ROUTE INCLUDING CARPOOL LANE
SEARCH ROUTE WITHOUT INCLUDING CARPOOL LANE
STORE SEARCH RESULT (GUIDANCE ROUTE) IN GUIDANCE ROUTE MEMORY
105
END

FIG. 6

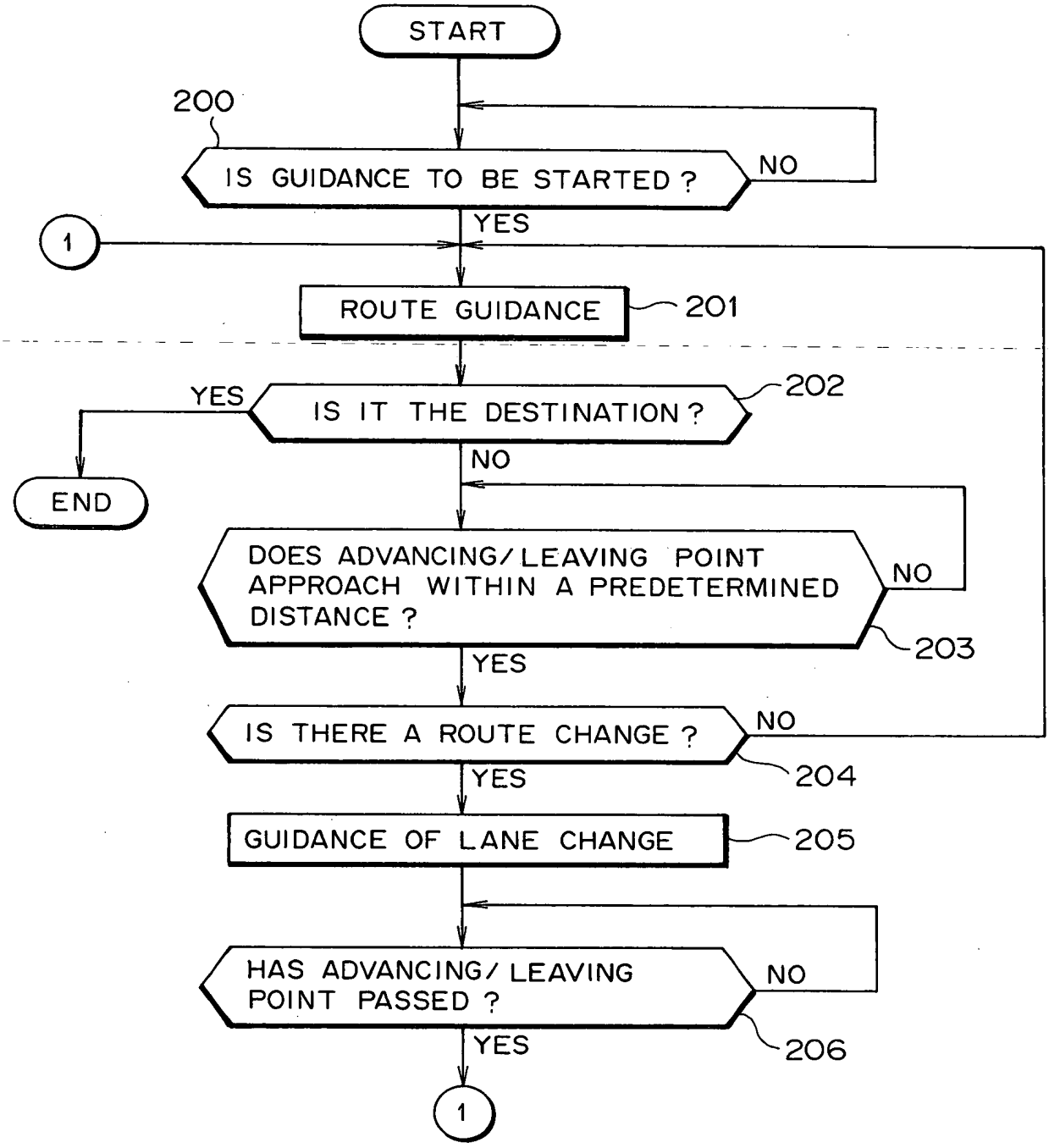

START
200
IS GUIDANCE TO BE STARTED ?
NO
YES
1
ROUTE GUIDANCE
201
YES
IS IT THE DESTINATION ?
202
END
NO
DOES ADVANCING/LEAVING POINT APPROACH WITHIN A PREDETERMINED DISTANCE ?
NO
203
YES
IS THERE A ROUTE CHANGE ?
NO
204
YES
GUIDANCE OF LANE CHANGE
205
HAS ADVANCING/LEAVING POINT PASSED ?
NO
206
YES
1

FIG. 7

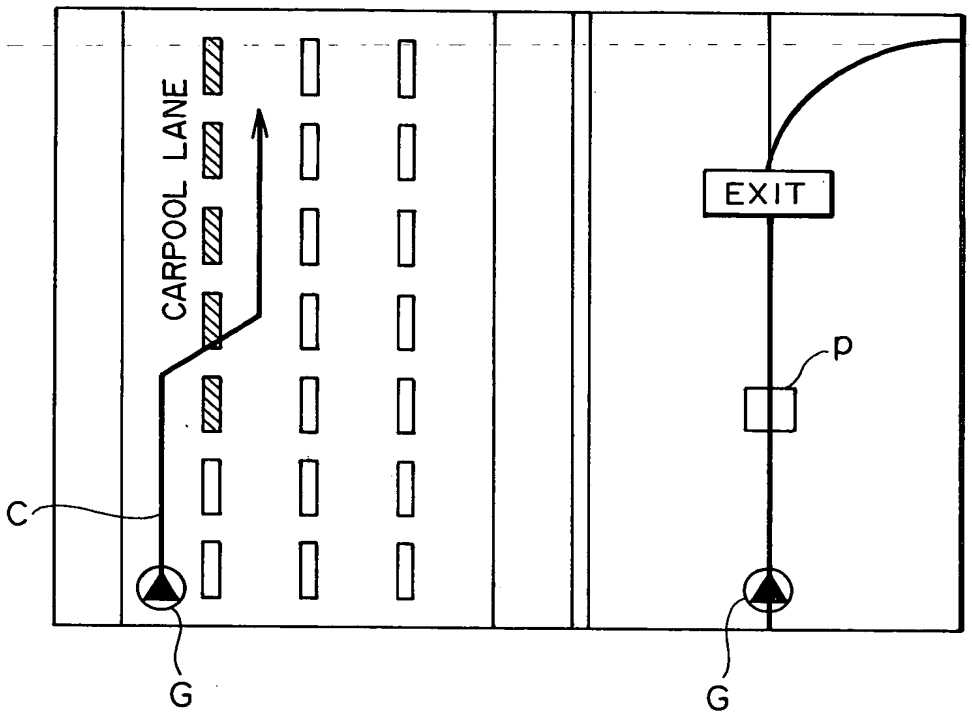
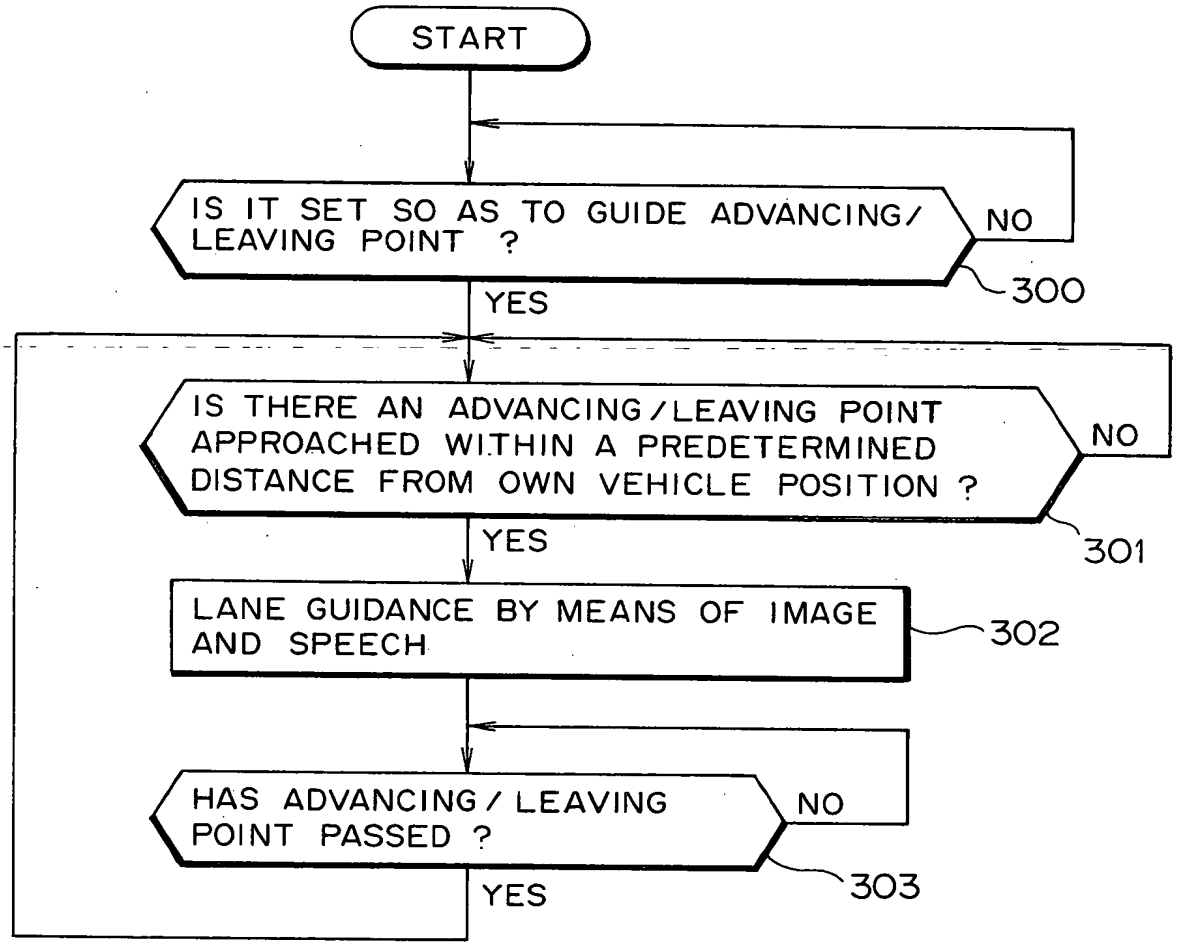


FIG.8


START
IS IT SET SO AS TO GUIDE ADVANCING/ LEAVING POINT ?
NO
300
YES
IS THERE AN ADVANCING/LEAVING POINT APPROACHED WITHIN A PREDETERMINED DISTANCE FROM OWN VEHICLE POSITION ?
NO
301
YES
LANE GUIDANCE BY MEANS OF IMAGE AND SPEECH
302
HAS ADVANCING/LEAVING POINT PASSED ?
NO
303
YES

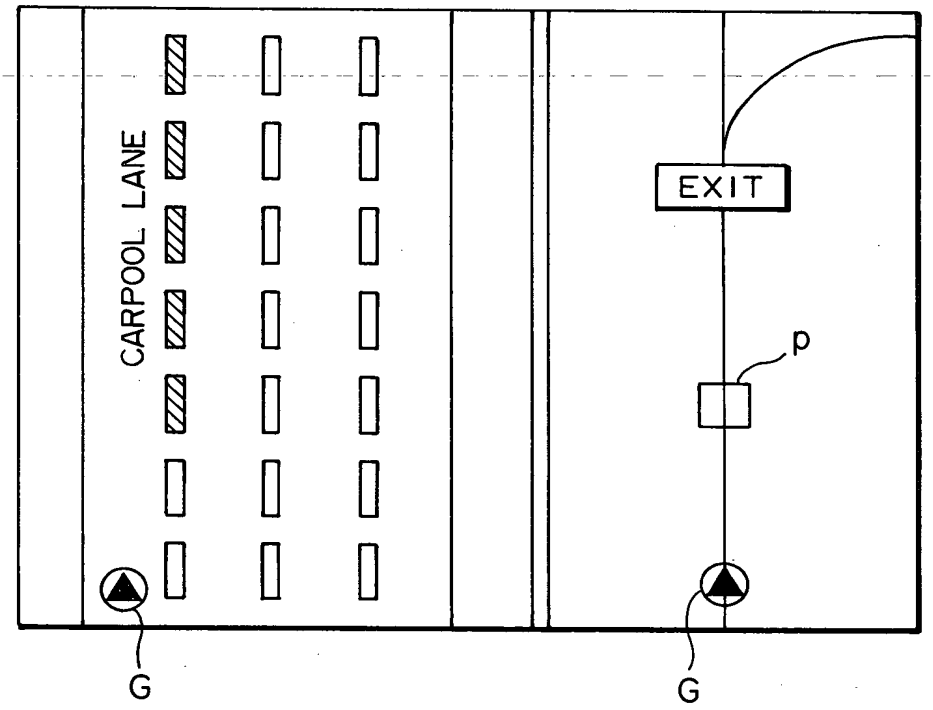



FIG.9